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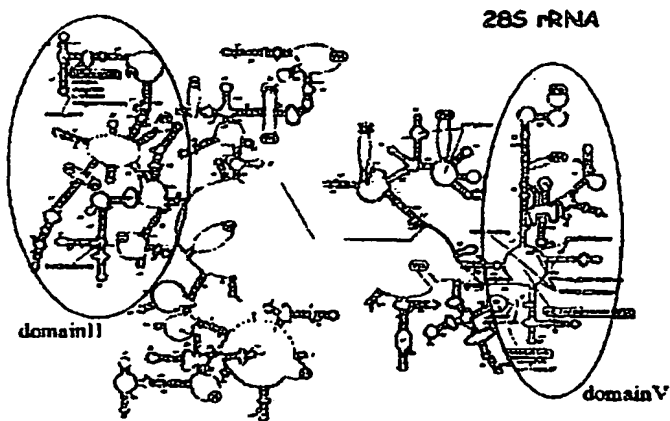
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(54) Title: METHODS FOR IDENTIFYING SMALL MOLECULES THAT MODULATE PREMATURE TRANSLATION TERMINATION AND NONSENSE MEDIATED mRNA DECAY



(57) **Abstract:** The present invention relates to a method for screening and identifying compounds that modulate premature translation termination and/or nonsense-mediated messenger ribonucleic acid ("mRNA") by interacting with a preselected target ribonucleic acid ("RNA"). In particular, the present invention relates to identifying compounds that bind to regions of the 28S ribosomal RNA ("rRNA") and analogs thereof. Direct, noncompetitive binding assays are advantageously used to screen libraries of compounds for those that selectively bind to a preselected target RNA. Binding of target RNA molecules to a particular compound is detected using any physical method that measures the altered physical property of the target RNA bound to a compound. The structure of the compound attached to the labeled RNA is also determined. The methods used will

depend, in part, on the nature of the library screened. The methods of the present invention provide a simple, sensitive assay for high-throughput screening of libraries of compounds to identify pharmaceutical leads.

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